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ABSTRACT

This report discusses the genesis, implementation, and evaluation of the Wichita, Kansas, School Health Education Curriculum Project, instructing fifth-, sixth-, seventh-, and eighth-grade public school students in units on the lung and respiratory system, the heart and circulatory system, and the brain and central nervous system. Developed from the prototype Berkeley (California) Health Education Project, the Wichita Model was designed to (1) improve teaching by introducing new methodology in health and other subject matter areas, (2) raise the knowledge levels of students with regard to body systems and functions, (3) improve classroom performance of students, and (4) increase community and parent involvement in education. Health units were taught an average of one hour per day for nine to twelve weeks, using printed materials rather than texts, and emphasizing visual aids and student participation. Attitude and knowledge surveys, scored separately for each of the three units, indicated that the project was both effective and well received. Significant gains in health knowledge were achieved by the students in all three health units. Although they were not universal, improved attitudes toward proper health practices were also evidenced for the students involved in the project. Nearly all of the students and parents polled indicated their satisfaction with the project and their desire to see it continued in the future. Statistical tables are interspersed throughout the report, and attached appendices present demographic questionnaires and responses, knowledge and attitude questionnaires, and student and parent attitude questionnaires with respect to the health units. (MJB)

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WICHITA PUBLIC SCHOOLS
UNIFIED SCHOOL DISTRICT 259
Dr. Alvin E. Morris, Superintendent

A REPORT OF THE
SCHOOL HEALTH EDUCATION
CURRICULUM PROJECT,
WICHITA MODEL
1974-75

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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July 1975

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SCHOOL HEALTH EDUCATION CURRICULUM PROJECT
WICHITA MODEL

SUMMARY

During the 1974-75 school year, the School Health Education Curriculum Project, Wichita Model, expanded its program from the previous year's inclusion in two schools to inclusion in 15 schools. Course instruction concerning the Lung and Respiratory System was presented at the fifth grade level; instruction in the Heart and Circulatory System was presented at the sixth grade level; and the unit on the Brain and the Central Nervous System was taught at the seventh and eighth grade levels. The project served 1,035 pupils and trained a total of 100 team members for instruction and administration. Parent and community involvement was encouraged and dissemination of information was accomplished through parent meetings, Health Fairs, and other public awareness activities. Analysis of test results indicates that the project had a positive impact upon the pupils' health attitudes and knowledge. Parents' comments toward the project were highly favorable.

GENERAL CONTEXT

Locale

Wichita is located in south-central Kansas and has a population of approximately 262,000. Wheat is the major agricultural product. Aircraft manufacturing is the leading area industry, the largest of which include Boeing, Beech, Cessna, and Gates Lear Jet. Also, important factors to the local economy are the various oil exploration and refining operations. Seasonal variations, the energy crisis, and inflation have contributed to an increase in unemployment from 3.5% last year to a present level of about 5.4%.

A total of 130 accredited schools serve approximately 62,000 Wichita children. Of this number, 101 are public schools: 79 are elementary schools, 16 are junior high schools, and six are senior high schools.

Enrollment projections indicate a downward trend in Wichita school population. The racial composition of the youth approximates 78% Caucasian, 18% Negro, and four percent Oriental, Mexican-American, and American Indian. Since the fall of 1971, large scale bussing of pupils has been practiced to insure a more equal racial distribution among the schools. Under Wichita's integration plan, each school's ratio of black pupils must remain between eight percent and twenty-five percent.

In fiscal 1974, the per-pupil cost of education was approximately \$1,029. The estimated per-pupil cost for fiscal 1975 is expected to equal or slightly exceed that of the previous year.

Historical Background

Growing out of the need to provide quality health education at the primary levels in the public schools, the Berkely (California) Health Education Project was conceived, developed, and tested. Authors of the project contend that behavior patterns which effect an individual's health status have more productive potential when the learning environment stresses student interaction and self-discovery rather than the classical "read-a-book-lecture" method. The student interaction-self-discovery method motivates students to think more critically and to base their personal health practices on decisions resulting from the knowledge they have gained.

From the original Berkeley project, evolved the School Health Education Curriculum Project, Wichita Model. The program has been implemented on a small scale for the past two years. This year, the Wichita Public School System, in cooperation with several local and state health agencies and with the Clearing House on Smoking Education, Department of Health, Education,

and Welfare enlarged, expanded and undergirded previous efforts in implementing the School Health Education Curriculum Project, Wichita Model.

PROGRAM DESCRIPTION

Scope

Prior to the 1974-75 school year, two health units were taught in two Wichita public schools. During the past school year, the program was expanded to include six schools (Buckner, Clark, Fabrique, Ingalls, Mueller, and South Hillside) teaching the Lung Unit, and eight schools (Black, Booth, Bryant, Chisholm, Ingalls, Kensler, Mueller, and Sim) teaching the Heart Unit. The Brain Unit was initiated into ten classrooms at Wilbur Junior High School. Thus, the project was implemented into a total of 41 classrooms in 15 schools. In all, 1,035 pupils received preventative health care instruction.

Personnel

Three positions were allocated in the project budget to coordinate the expansion of the health project: Technical Assistant, Project Secretary, and Project Evaluator (part time). In addition, in-kind support from the Board of Education provided the following positions:

- 29 teachers for 45 days
- 12 principals for 45 days
- 15 school nurses for 45 days
- 1 part-time senior evaluator supervisor
- 1 part-time Project Director

Procedures

The content areas of the health project corresponded to grade levels. The three field-tested classroom units, as developed through previous HEW grants, were:

- Grade 5--Lung and Respiratory System
- Grade 6--Heart and Circulatory System
- Grades 7/8--Brain and Central Nervous System

Classroom teachers and/or school nurses taught the health units for an average of one hour per day for nine to 12 weeks. Textbooks, per se, were not used by the students; however, printed material was distributed and the students assembled this material into a notebook which totaled 300 pages by the end of the unit. Demonstrations and instruction were presented by resource persons from the community. Students were encouraged to actively participate in the learning situation through the presentation of skits, talks, posters, etc. The use of visual aides and student participation were

emphasized throughout the project.

In accord with the objective of increasing interest in school activities, visitors were encouraged and welcomed into the classrooms. The schools communicated to their parents and communities by way of informational flyers, parent meetings, and Health Fairs. Further public information activities were conducted largely by project staff, primarily through program presentations before various groups of public school personnel. Television coverage of the health project's participation in the Kansas Lung Association's Annual Meeting held April 22-23, 1975 was obtained.

In cooperation with the Educational Field Services at Wichita State University, four team training workshops were held. The Lung Unit Workshop held in June, 1975 trained personnel from seven USD 259 schools and one team from USD 410 Hillsboro, Kansas. The Heart Unit Workshops trained personnel representing sixteen elementary schools and the Brain Unit Workshop trained teams for six junior high schools. The workshops consisted of eight six-hour days of training and the participants received three semester credit hours from the university. A total of 100 team members were trained: 62 teachers, 19 administrators, and 19 school nurses. Also completing training was a five-member team that participated in the University of Illinois Health Education Workshop, "Food, Energy, and You." This team will initiate the fourth grade digestive unit during the coming school year.

Budget

Support for the health project came from a Kansas Regional Medical Program grant, the Board of Education, the Champaign (Illinois) Regional Training Office, federal assistance, and many other state and local agencies. Total funds expended were \$20,369.40. Based on a total of 1,035 pupils, the per pupil cost of the project was \$19.68.

EVALUATION

The School Health Education Curriculum Project, Wichita Model, proposed four objectives. These objectives were developed from the principal hypothesis, that the Health Education Project would have a positive effect upon the teachers, pupils, and parents that come in contact with the various project units. The four objectives are:

1. Improve teaching by incorporating new methodology in health and other subject matter areas.
2. Raise the level of awareness and knowledge of pupils with regard to body systems and functions.
3. Improve classroom performance of pupils in terms of class participation, enthusiasm, self-direction, and working with others.
4. Increase interest and participation of parents and other community patrons in school activities.

In the main, formal evaluation of the project dealt with the second objective, since measurable behavioral criteria were most applicable to that goal.

The curriculum was evaluated through a pretest, posttest control group design. Demographic, attitude and knowledge inventories, as developed by the School Health Education Curriculum Project Regional Office at Champaign, Illinois (formerly the Berkeley Health Education Project Office), were administered. Attitude and Knowledge inventories, along with demographic data for both project and control samples may be found in Appendix A. The evaluation focused on the changes in attitude and knowledge brought about by the health education project as compared to control groups.

A stratified random sample of the project schools was selected for evaluation purposes, based on two variables: socioeconomic level of the school and type of class in which the health unit was taught (i.e., self-contained or combination, etc.). An attempt was made to match experimental project schools for starting dates for their respective units. Control schools were selected which were matched with the experimental project schools on the pertinent variables. Test data were analyzed for 512 project pupils and 206 control pupils. The t-tests for dependent means were calculated on the test results for the pre- and post-treatment knowledge tests (experimental and control groups). The t-tests for independent means were calculated between the experimental and control groups on the pre- and post-treatment knowledge tests. The same t-tests and design were used to evaluate the attitude survey.

Test data from the Lung, Heart, and Brain health units were analyzed separately since each unit dealt with a specific content and was tested with instruments specific to that content. Attitude surveys and knowledge tests were scored separately.

Lung Unit

Mean scores for two comparisons from the Lung Unit test data were found to be significantly different, both at the .001 level. Table A shows that the knowledge posttest mean score was higher than the pretest score for both the project group and the control group. No other differences between means were found to be significant. Since the difference between project and control posttest scores was negligible, it can only be concluded from this data, that involvement in the lung health unit had little effect upon the students' test scores. Figures 1 and 2 give a graphic representation of the comparative mean scores for the Lung Unit.

TABLE A
SCHOOL HEALTH EDUCATION CURRICULUM PROJECT
WICHITA MODEL, 1974-75

LUNG UNIT
Significant Differences Between Means

	n	$\bar{x}$	SD	Diff	d.f.	t	sig.
Attitude Pretest Project*	111	13.13	5.03	0.76	182	0.92	N.S.
Control	73	12.37	5.62				
Attitude Posttest Project	104	12.40	5.17	0.31	174	0.38	N.S.
Control*	72	12.71	5.21				
Attitude Project Pretest*	111	13.15	5.02	0.75	213	1.07	N.S.
Posttest	104	12.40	5.17				
Attitude Control Pretest	73	12.37	5.62	0.34	143	0.37	N.S.
Posttest*	72	12.71	5.21				
Knowledge Pretest Project	111	8.94	3.39	0.51	182	0.94	N.S.
Control*	73	9.45	3.75				
Knowledge Posttest Project*	104	13.04	4.31	0.19	174	0.28	N.S.
Control	72	12.85	4.43				
Knowledge Project Pretest	111	8.95	3.41	4.09	213	5.61	p<.001
Posttest*	104	13.04	4.31				
Knowledge Control Pretest	73	9.45	3.75	3.40	143	4.97	p<.001
Posttest*	72	12.85	4.43				

*Larger of two means being compared.

Figure 1

SCHOOL HEALTH EDUCATION CURRICULUM PROJECT
WICHITA MODEL, 1974-75

LUNG UNIT

ATTITUDE SURVEY

MEAN SCORES

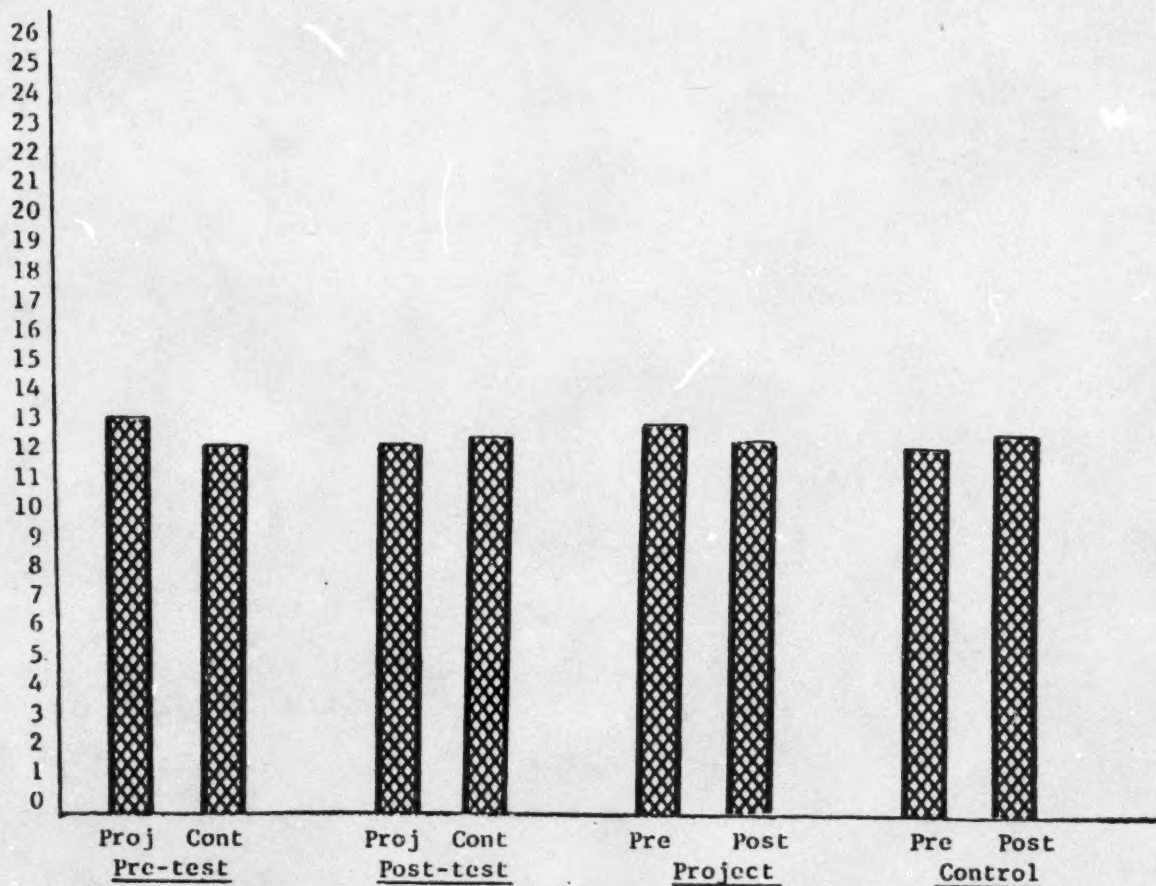


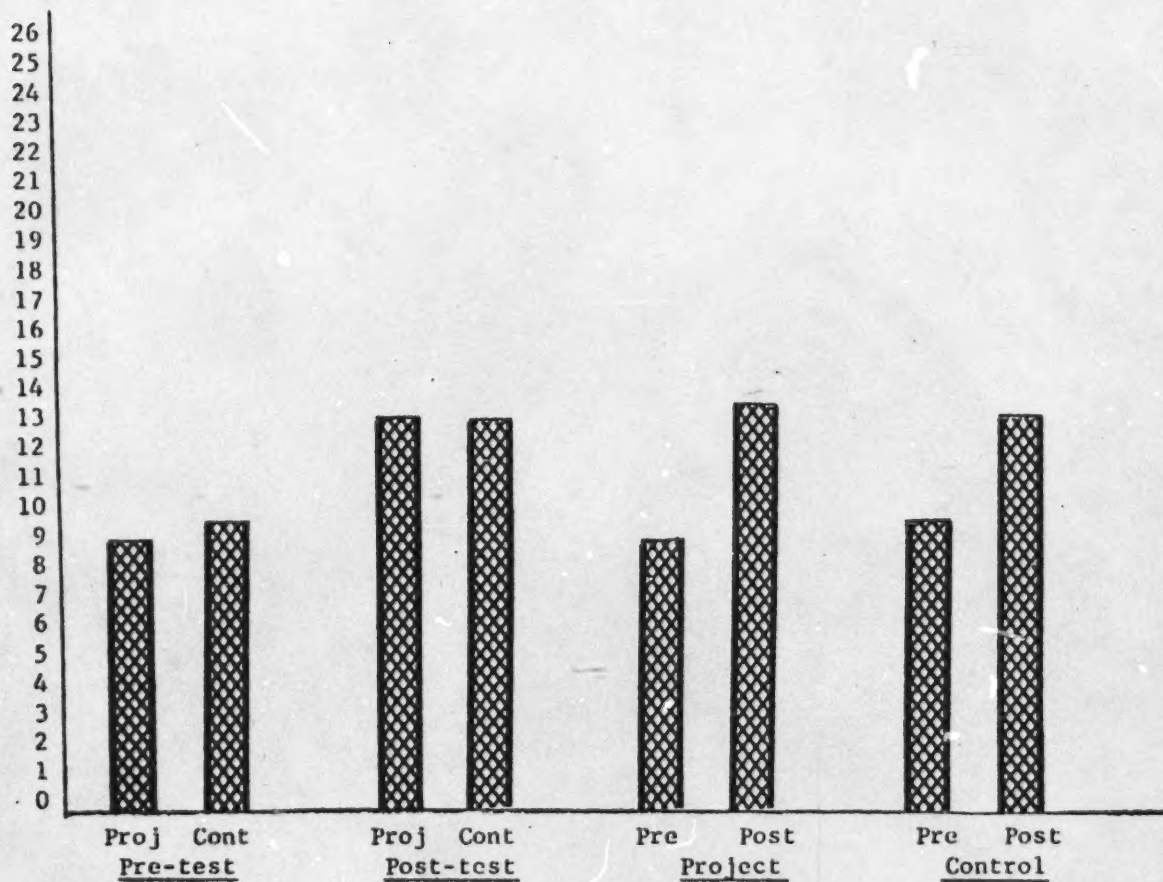
Figure 2

SCHOOL HEALTH EDUCATION CURRICULUM PROJECT
WICHITA MODEL, 1974-75

LUNG UNIT

KNOWLEDGE TEST

MEAN SCORES



Heart Unit

Several differences between means were found to be significant from the test scores of the Heart Health Unit, as shown in Table B. Although the differences between means for attitude pretest and posttest scores were significant for neither the project group nor the control group, and pretest data showed no significant difference between project and control groups, the posttest attitude scores were found to differ significantly between project and control groups.

Data from the knowledge tests indicate significant gains from pretest to posttest for the project group. The posttest mean score for the group was 6.16 points greater than the pretest mean score. The mean pretest score was greater for the control group than for the project group. However, for the control group, the pretest mean score was also greater than the posttest mean score. Thus, while the control group scored higher on the pretest than the project group, they showed a loss of 1.54 points in mean score from pretest to posttest.

Very importantly, the comparison between project and control groups for the knowledge posttests resulted in a significant difference between mean scores. The project group achieved a mean score of 21.18, whereas the control group had mean score of 14.85. This 6.33 point difference was significant at the .001 level. Thus, although the control group outscored the project group in the pretest, the control group lost mean score points and the project group gained mean score points. Posttest knowledge scores were significantly higher for the project group. Figures 3 and 4 represent the Heart Unit mean score comparisons.

Brain Unit

Among the three health units taught, the attitude survey results from the Brain Unit show the most difference between groups. As seen in Table C, differences between pretest project and control groups, and control group pretest and posttest were not determined to be significant. However, the posttest attitude mean score for project schools was significantly greater than that obtained by the control group. Project schools showed a gain in the posttest mean score of 1.48 points, the difference being significant at the .05 level. From this analysis, it can be seen that project schools and control schools pretested at approximately the same level. However, the project schools' posttest mean score was significantly greater not only when compared to pretest, but also when compared to control group posttest.

The knowledge test results, also found in Table C, indicate no significant difference between project and control groups for the pretest situation. The greatest absolute difference between mean scores was found between project schools and control schools for the posttest. Project schools scored 13.85 points higher than control schools.

TABLE B
SCHOOL HEALTH EDUCATION CURRICULUM PROJECT
WICHITA MODEL, 1974-75

HEART UNIT
Significant Differences Between Means

	n	$\bar{x}$	SD	Diff	d.f.	t	sig.
Attitude Pretest Project Control*	157 80	15.49 16.97	8.04 6.67	1.48	235	1.50	N.S.
Attitude Posttest Project Control*	149 85	15.37 17.82	8.13 8.24	2.54	232	2.18	p<.05
Attitude Project Pretest* Posttest	157 149	15.49 15.37	8.04 8.13	0.12	304	0.12	N.S.
Attitude Control Pretest Posttest*	80 85	16.97 17.82	6.67 8.24	0.85	163	0.72	N.S.
Knowledge Pretest Project Control*	157 80	15.02 16.39	5.19 4.66	1.37	235	2.05	p<.05
Knowledge Posttest Project* Control	149 85	21.18 14.85	9.21 5.23	6.33	232	6.68	p<.001
Knowledge Project Pretest Posttest*	157 149	15.02 21.18	5.19 9.21	6.16	304	7.26	p<.001
Knowledge Control Pretest* Posttest	80 85	16.39 14.85	4.66 5.23	1.54	163	1.98	p<.05

*Larger of two means being compared.

Figure 3

SCHOOL HEALTH EDUCATION CURRICULUM PROJECT
WICHITA MODEL, 1974-75

HEART UNIT

ATTITUDE SURVEY

MEAN SCORES

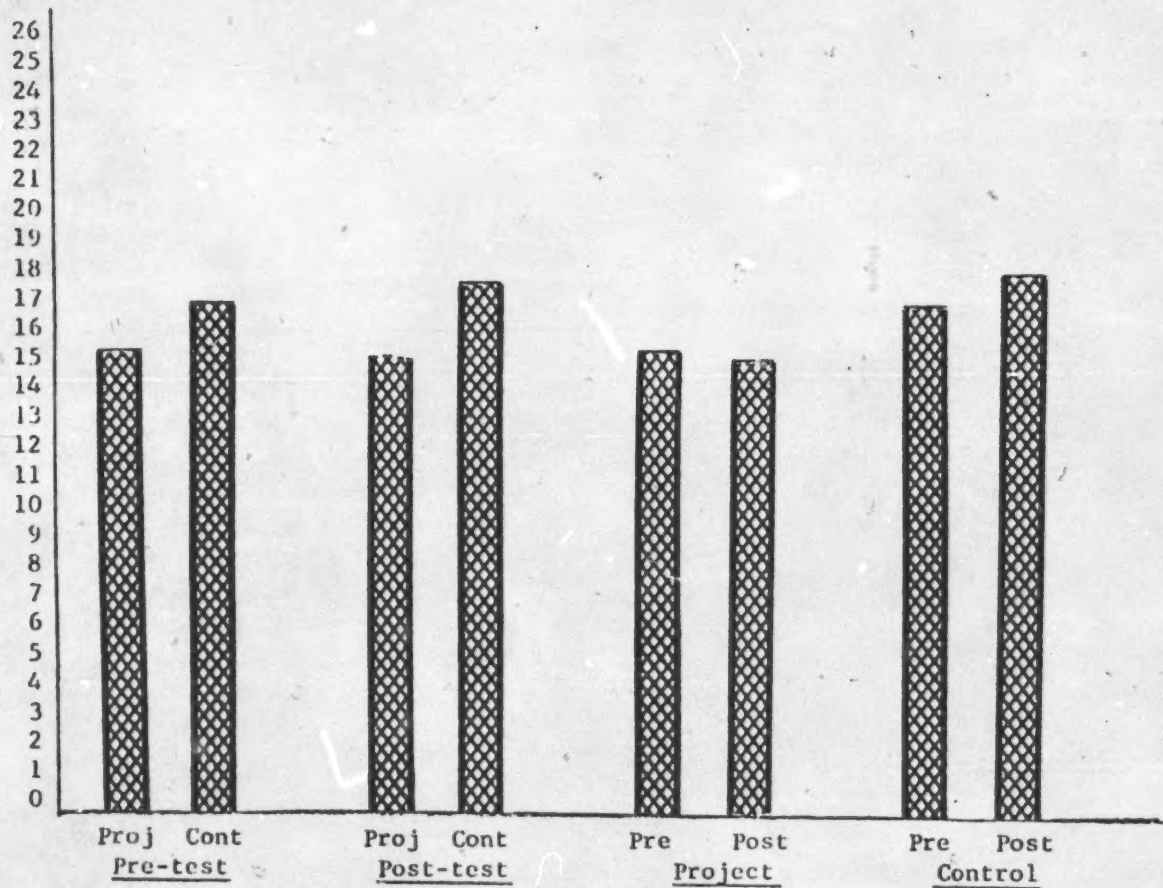


Figure 4

SCHOOL HEALTH EDUCATION CURRICULUM PROJECT
WICHITA MODEL, 1974-75

HEART UNIT

KNOWLEDGE TEST

MEAN SCORES

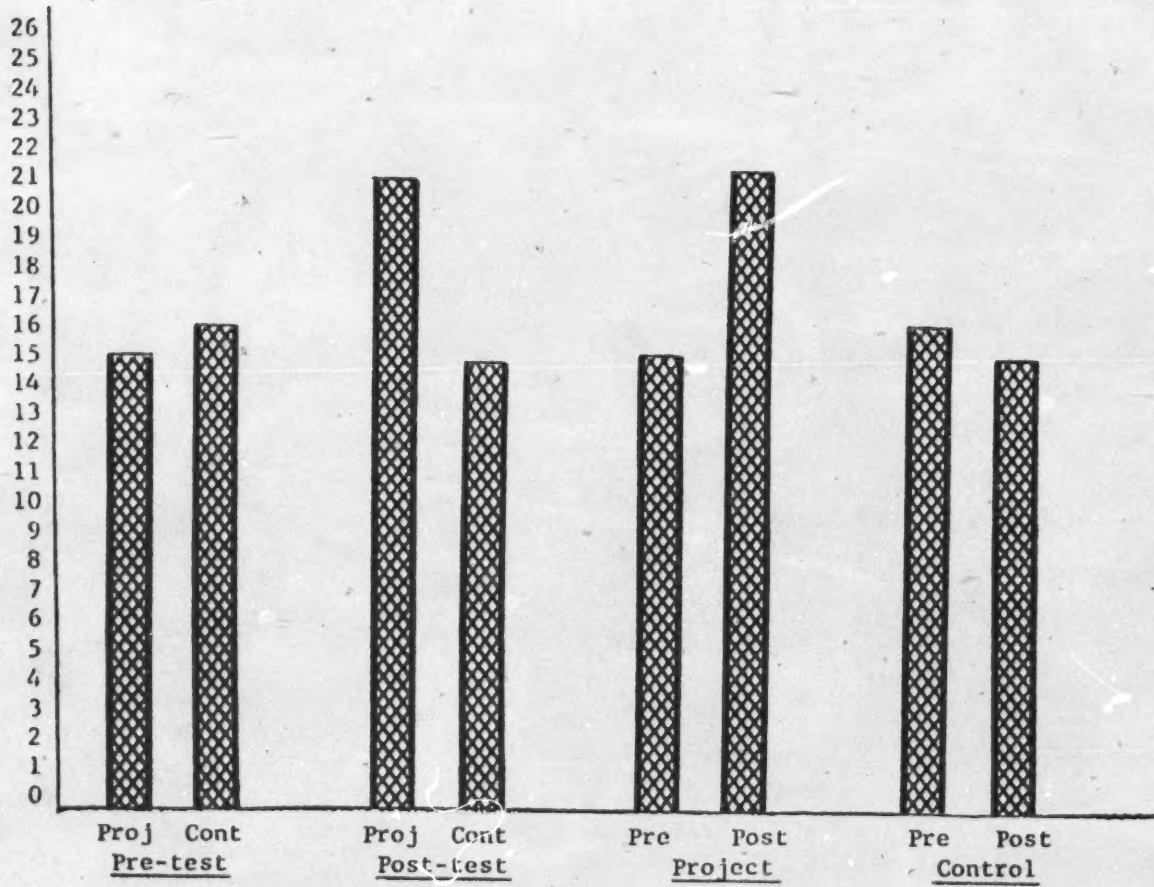


TABLE C
SCHOOL HEALTH EDUCATION CURRICULUM PROJECT
WICHITA MODEL, 1974-75

BRAIN UNIT
Significant Differences Between Means

	n	$\bar{x}$	SD	Diff	d.f.	t	sig.
Attitude Pretest Project	236	13.55	7.42	0.10	282	.082	N.S.
Control*	48	13.65	7.23				
Attitude Posttest Project*	244	15.03	7.42	3.01	290	2.46	p<.02
Control	48	12.02	7.74				
Attitude Project Pretest	236	13.55	7.42	1.48	478	2.18	p<.05
Posttest*	244	15.03	7.42				
Attitude Control Pretest*	48	13.65	7.23	1.63	94	1.05	N.S.
Project	48	12.02	7.74				
Knowledge Pretest Project*	236	18.89	5.60	0.68	281	0.60	N.S.
Control	47	18.21	7.29				
Knowledge Posttest Project*	244	23.27	6.92	13.85	290	21.36	p<.001
Control	48	9.42	3.24				
Knowledge Project Pretest	236	18.89	5.60	4.38	478	7.57	p<.001
Posttest*	244	23.27	6.92				
Knowledge Control Pretest*	47	18.21	7.29	8.79	93	7.55	p<.001
Posttest	48	9.42	3.24				

*Larger of the two means being compared.

Figure 5

SCHOOL HEALTH EDUCATION CURRICULUM PROJECT
WICHITA MODEL, 1974-75

BRAIN UNIT

ATTITUDE SURVEY

MEAN SCORES

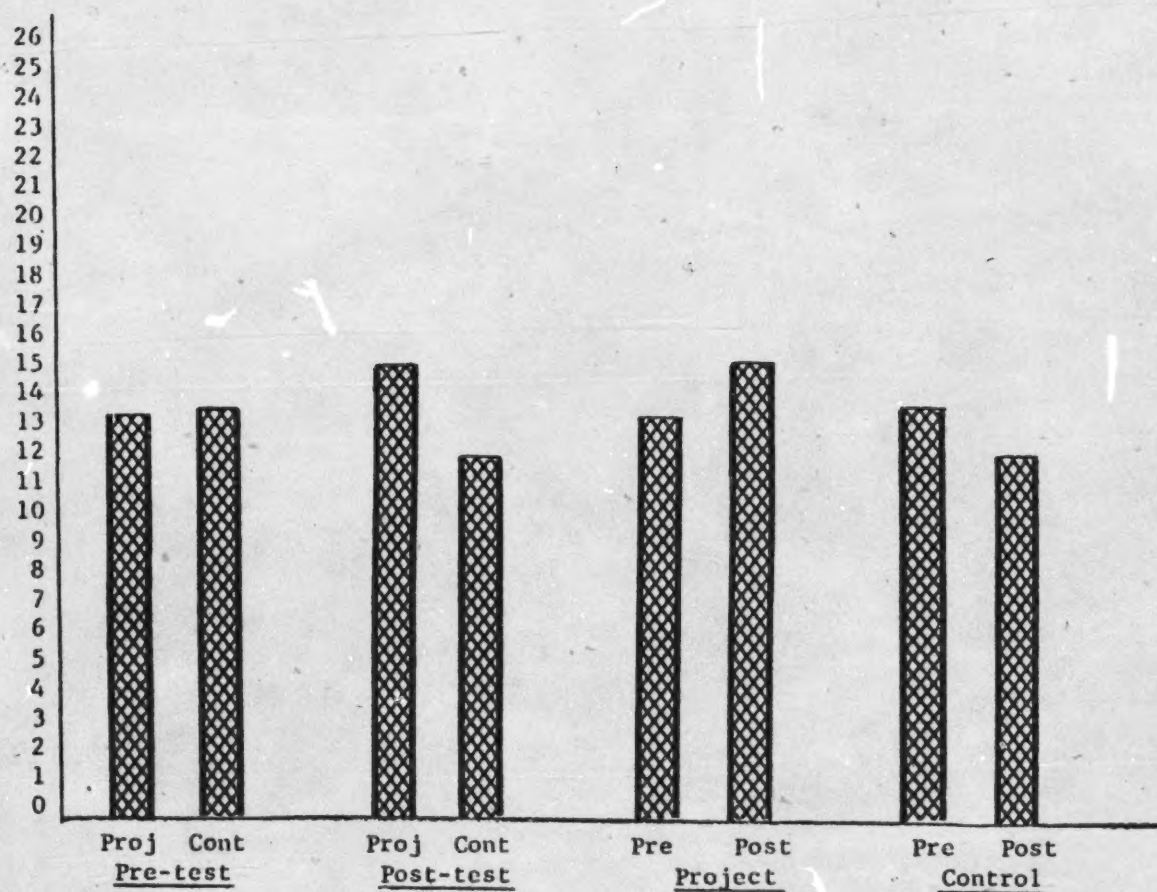


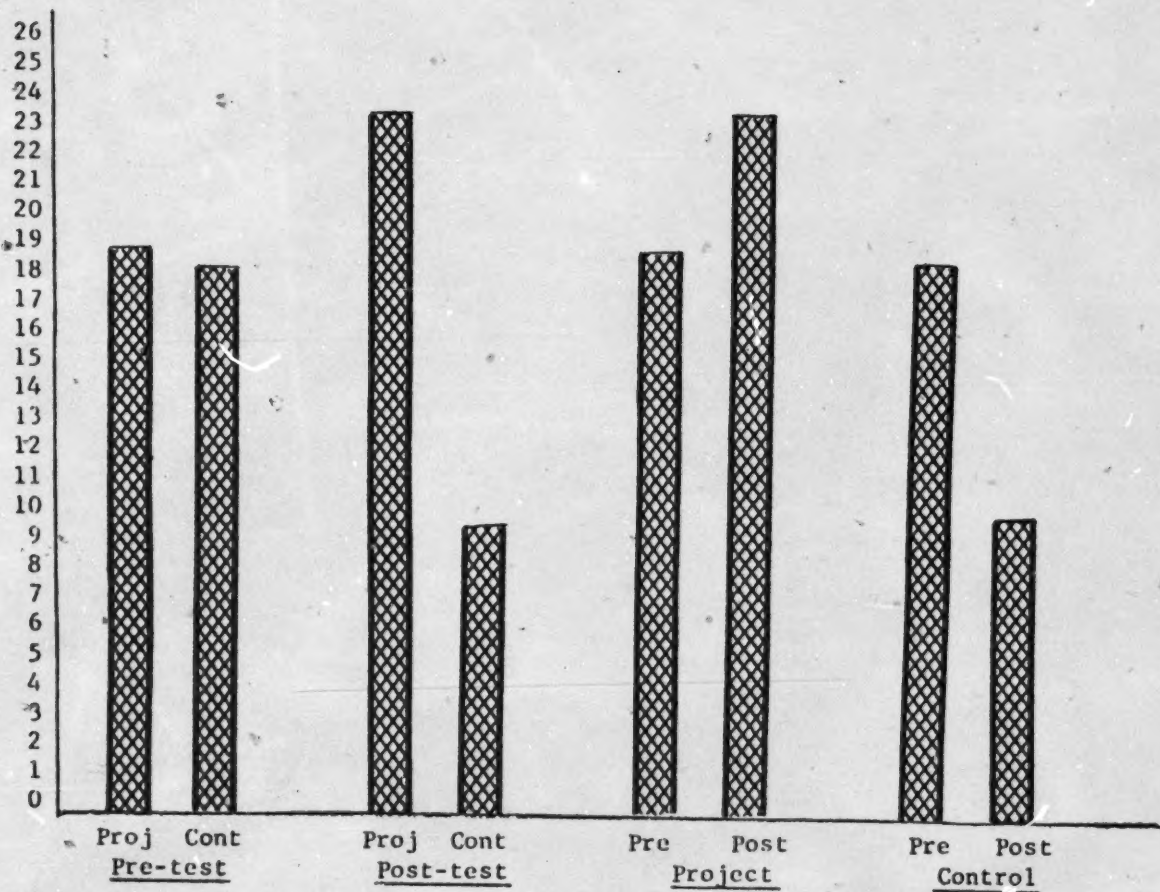
Figure 6

SCHOOL HEALTH EDUCATION CURRICULUM PROJECT
WICHITA MODEL, 1974-75

BRAIN UNIT

KNOWLEDGE TEST

MEAN SCORES



Similar to the Heart Unit, the Brain Unit control group obtained a higher mean score on the pretest than on the posttest. Conversely, the project group obtained a lower mean score on the pretest than on the posttest. Both differences between means were significant at the .001 level. Thus, while project schools and control schools prettested at approximately the same level, the project schools' scores increased on the posttest and the control schools showed a decrease in posttest mean score. Graphs for the Brain Unit are found in Figures 5 and 6.

First Generation vs. Second Generation Instructors

Where possible, t-tests for independent means were calculated for post-treatment knowledge and attitude mean scores between students of first generation teachers and students of second generation teachers.

First generation teachers are those persons who have attended the National Training Workshop at the regional training center in Champaign, Illinois. Second generation teachers have received their training from first generation teachers in workshops held locally. Table D shows the three comparisons made between first and second generation teachers' students' mean scores. In each case, the students of first generation teachers scored higher on the average. This difference could be due in part to the fact that first generation teachers have both taught the health unit before and been workshop instructors themselves. Further research might determine if this difference remains over two or three years of teaching the health unit.

TABLE D

T-TEST BETWEEN MEAN TEST SCORES
FIRST AND SECOND GENERATION TEACHERS' STUDENTS'
HEALTH EDUCATION CURRICULUM PROJECT, WICHITA MODEL
July 1974 - June 1975

	n	$\bar{x}$	SD	d.f.	t-ratio	sig.
Heart Knowledge Posttest						
First Generation	56	26.4	6.6			
Second Generation	61	21.2	9.0	115	3.499	p<.001
Lung Attitude Posttest						
First Generation	24	14.4	4.9			
Second Generation	39	12.3	5.5	61	1.495	p<.2
Lung Knowledge Posttest						
First Generation	24	12.4	2.8			
Second Generation	39	9.9	3.3	61	3.066	p<.01

Parent Interview

In an attempt to assess any changes in the parents' health attitudes, knowledge, and practices as a function of the program, Parent Interview Questionnaires were developed jointly by the project director, school nurses, and the project evaluator. Separate, but similar, Parent Interviews were designed for the lung unit and the heart unit, consisting of both knowledge and attitude questions.

Data from these interviews are inconclusive due mainly to methodological problems. The number of interviews held was quite small. In addition, because different interviewers were used, the manner in which interview questions were posed was not standard throughout.

Student and Parent Questionnaires

Assistance was sought from the Woodbridge Township School District, Hopelawn, N.M., in the development of the Student Questionnaire and the Parent Questionnaire. Woodbridge has had previous experience in student and parent evaluation of the health project. The Student Questionnaire was developed to assess the students' evaluation of the project and the effects of the course upon the students' health practices and attitudes. The Parent Questionnaire assesses the parents' awareness of the health project, attitude toward it, and evaluation of the effects it has had on their child's behavior.

At the completion of each health unit, Student Questionnaires were administered randomly to one-half of the student population of each class in the experimental project schools. The students in the remaining one-half of each class were given Parent Questionnaires to be completed by their parents.

The questionnaire responses were tallied and the percentage responding in each response category was computed. Ninety-two percent of the students polled responded that they enjoyed the Health Education Project. Approximately 61% of the parent questionnaires were returned. Of those, 98% responded that they would like their child involved in a similar program again. Written parent responses from the comment section were favorable toward the project without exception. Appendix B includes the response percentages for the Student Questionnaire and Parent Questionnaire plus written comments about the program which were received from the parents.

RECOMMENDATIONS

The data obtained from the evaluation of the Health Education Curriculum Project, Wichita Model indicate that the project has been both effective and well-received. Significant gains in health knowledge were achieved by the students in all three health units. Although the changes were not as universal, improved attitudes toward proper health practices were also evidenced for the students involved in the project. Nearly all of the students and parents polled indicated their satisfaction with the project and their desire to see it continued in the future.

APPENDIX A

LUNG AND RESPIRATORY UNIT
Demographic Material by Percentage

E - Experimental Project Schools
C - Control Schools

<u>E%</u>	<u>C%</u>	
		1. What was your age at your last birthday?
58	71	A. 10 years old or younger
36	25	B. 11 years old
5	4	C. 12 years old
		D. 13 years old
		E. 14 years old
		2. How many older brothers and sisters do you have living at home?
32	36	A. No brothers or sisters at home
41	36	B. 1 at home
24	14	C. 2 at home
13	14	D. 3 or more
		3. If you have older brothers and sisters living at home, how many smoke cigarettes?
82	81	A. None smoke
13	11	B. 1 smokes
3	4	C. 2 smokes
2	4	D. 3 or more smoke
		4. Of your best friends, how many smoke cigarettes?
83	86	A. None smoke
12	8	B. 1 smokes
0	3	C. 2 smokes
1	1	D. 3 smokes
4	1	E. All of them smoke
		5. Compared with other students in your grade, how good a student would you say you are?
10	10	A. One of the best
38	33	B. Above average
41	26	C. Average
11	11	D. Below average
		6. Does your mother smoke cigarettes?
39	42	A. Yes
4	7	B. She used to but quit less than a year ago
6	12	C. She used to but quit more than a year ago
46	37	D. No
5	1	E. No mother at home

LUNG AND RESPIRATORY UNIT

E% C%

7. Does your father smoke cigarettes?

46	45	A. Yes
4	4	B. He used to but quit less than a year ago
7	12	C. He used to but quit more than a year ago
37	36	D. No
9	3	E. No father at home

8. Read carefully all of the following five (5) statements and check the one that best describes you now.

84	79	A. I have never smoked cigarettes
4	3	B. I smoke cigarettes now, and have smoked <u>fewer</u> than 100 cigarettes in my life.
0	0	C. I smoke cigarettes now, and have smoked 100 or more cigarettes in my life.
6	17	D. I do not smoke cigarettes now, and have smoked fewer than 100 cigarettes in my life.
6	1	E. I <u>do not</u> smoke cigarettes now, but have smoked 100 or more cigarettes in my life.

9. I am a: (mark this in the column entitled "Sex")

55	49	Boy.....M
45	51	Girl.....F

ABOUT OUR LUNGS

THE RESPIRATORY SYSTEM IN HEALTH AND DISEASE Attitude and Knowledge Inventory

Attitude Survey

1. I feel smoking is a risk worth taking.
2. Smoking is a very relaxing pastime.
3. Kids who don't smoke are more respected by their classmates.
4. Cigarette smoking smells bad.
5. One of the main reasons kids smoke is to be part of the group.
6. Cigarettes are pleasurable.
7. Kids who smoke are just trying to show off.
8. Smoking is an impossible habit to stop.
9. Teachers should set a good example by not smoking cigarettes.
10. If people stopped to think about what they were doing, they wouldn't smoke cigarettes.
11. It's better not to start smoking cigarettes than to have to stop smoking cigarettes.
12. Smoking is something nice to do when you're having fun or enjoying yourself.
13. If parents smoke, they should allow their children to smoke.
14. If I had my way about it, there would be a law against smoking.
15. Cigarette smoking is a bad habit.
16. To be popular, one has to smoke cigarettes.
17. People who smoke are usually more friendly than people who do not smoke.
18. I don't want to get hooked on anything including cigarettes.
19. Cigarette smoking should be banned from newspapers and magazines.
20. Parents should set a good example by not smoking cigarettes.
21. Cigarette smokers usually appear tougher than other people.
22. Cigarette smoking can help to control overweight.

23. One should decide for himself whether or not to smoke.
24. Filter cigarettes are safer to smoke than non-filter cigarettes.
25. Some kids smoke because it shows freedom from their parents and teachers.
26. Cigarette smoking causes chronic bronchitis.
27. Kids smoke mainly because their close friends smoke.
28. If I were a parent, I would not let my kids smoke cigarettes.

Knowledge Inventory

1. The basic structure of living matter is the:
 - A. cell
 - B. protoplasm
 - C. ovum
 - D. nuclei
 - E. None of the above
2. The disease in which the air sacs of the lungs break down is called:
 - A. pneumonia
 - B. asthma
 - C. emphysema
 - D. bronchitis
 - E. None of the above
3. Which of the following drugs is not a depressant:
 - A. alcohol
 - B. barbiturates
 - C. tranquilizers
 - D. caffeine
 - E. None of the above
4. The process by which the body converts food into living tissue and energy is called:
 - A. oxidation
 - B. congestion
 - C. catabolism
 - D. metabolism
 - E. None of the above
5. The framework or structure upon which the body is built is called the:
 - A. skeleton
 - B. vertebrae
 - C. ligament
 - D. tendon
 - E. None of the above

6. A vaccine is injected under your skin to stimulate your body to produce:
 - A. antigens
 - B. antibodies
 - C. white blood cells
 - D. platelets
 - E. None of the above
7. Heavy cigarette smokers usually become tired sooner than non-smokers because:
 - A. their lungs decrease in size
 - B. dirt and dust can't be filtered
 - C. of nonefficient gas exchange in the lungs
 - D. their lung membranes lose their elasticity
 - E. None of the above
8. The "smoker's cough," a type of chronic bronchitis, is:
 - A. the result of constriction
 - B. caused by irritation of the mucous membrane of the respiratory tract
 - C. due to the chemicals in the cigarette paper
 - D. not really related to smoking
 - E. None of the above
9. Which one of the following diseases is a chronic disease:
 - A. arthritis
 - B. rubella
 - C. common cold
 - D. pneumonia
 - E. None of the above
10. A term applied to a cancer producing substance is:
 - A. carcinogen
 - B. malignant tumor
 - C. allergy
 - D. benign tumor
 - E. None of the above
11. The process by which a human inhales oxygen and exhales carbon dioxide is called:
 - A. conversion
 - B. transformation
 - C. respiration
 - D. absorption
 - E. None of the above
12. The process by which food passes through the walls of the small intestine into the blood stream is called:
 - A. osmosis
 - B. absorption
 - C. anabolism
 - D. cytolysis
 - E. None of the above

13. Which group of muscles keep working while you sleep?
- A. involuntary muscles
 - B. voluntary muscles
 - C. striated muscles
 - D. motor muscles
 - E. None of the above
14. Proteins such as meat, beans, and eggs are called:
- A. health foods
 - B. dietary foods
 - C. body building foods
 - D. mineral foods
 - E. None of the above
15. Metastasis refers to the:
- A. thickening of the walls of the arteries
 - B. spreading of cancer cells to other parts of the body
 - C. destruction of the tiny air sacs of the lungs
 - D. result of poor circulation in the body extremities
 - E. None of the above
16. The part of the blood responsible for transporting food to body cells is called:
- A. plasma
 - B. platelets
 - C. red blood cells
 - D. white blood cells
 - E. None of the above
17. Which one of the following acts as a cleaning and filtering mechanism for the lungs?
- A. bronchi
 - B. cilia
 - C. trachea
 - D. alveoli
 - E. None of the above
18. A colorless and odorless gas that comes out of automobile exhausts is called:
- A. carbon dioxide
 - B. sulphur dioxide
 - C. carbon monoxide
 - D. sulphur monoxide
 - E. None of the above
19. Emphysema is most often associated with:
- A. cigarette smoking
 - B. air pollution
 - C. sniffing glue
 - D. lung cancer
 - E. None of the above
20. The passageway leading from pharynx to the lungs is called the
- A. larynx
 - B. trachea
 - C. alveoli
 - D. esophagus
 - E. None of the above

21. The trachea divides into the main branches called the:
- A. alveoli
 - B. bronchioles
 - C. trachea tubes
 - D. bronchi
 - E. None of the above
22. Cigarette smoking produces all of the following except a (an):
- A. decrease in temperature in the extremities
 - B. reduction of the oxygen in the blood
 - C. rise in the blood sugar level
 - D. increase in body weight
 - E. None of the above
23. The major cause of air pollution is:
- A. dust particles
 - B. auto exhausts
 - C. factory smoke
 - D. jet planes
 - E. None of the above
24. Which of the following is the major component of the air we breathe:
- A. oxygen
 - B. nitrogen
 - C. carbon dioxide
 - D. carbon monoxide
 - E. None of the above
25. An example of an official health agency is:
- A. American Heart Association
 - B. Tuberculosis and Respiratory Disease Association
 - C. State Health Department
 - D. World Health Organization
 - E. None of the above
26. Which of the following is the oldest drug known to man:
- A. Marijuana
 - B. Wine
 - C. Tobacco
 - D. Opium
 - E. None of the above
27. In doing mouth to mouth artificial respiration on small children (not babies) the rate should be:
- A. 5 to 10 breaths per minute
 - B. 11 to 15 breaths per minute
 - C. 16 to 20 breaths per minute
 - D. 21 to 25 breaths per minute
 - E. None of the above
28. An example of a voluntary health agency is:
- A. Tuberculosis and Respiratory Disease Association
 - B. County Health Department
 - C. City Health Department
 - D. State Health Department
 - E. None of the above

29. The first step in trying to correct poor posture should be:
- A. vigorous exercise
 - B. proper relaxation
 - C. good eating habits
 - D. physical examination
 - E. None of the above
30. The use of tobacco started:
- A. in Russia
 - B. in England
 - C. in the United States
 - D. in Spain
 - E. None of the above
31. Which of the following describes a temperature inversion?
- A. A layer of warm air is trapped below a layer of cold air.
 - B. A layer of cold air is trapped below a layer of warm air.
 - C. The oxygen in the air becomes unfit to breathe.
 - D. The amount of carbon dioxide in the air increases to a danger level.
 - E. None of the above
32. Which of the following statements about alcohol is false:
- A. Alcohol is a source of energy.
 - B. Alcohol can cause damage to the liver.
 - C. Alcohol is a stimulant.
 - D. Alcohol does not have to be digested to enter the blood stream.
 - E. None of the above
33. Which of the following is not a part of a human cell:
- A. cell wall
 - B. cell membrane
 - C. nucleus
 - D. vacuoles
 - E. None of the above
34. Which of the following statements about glue sniffing is false:
- A. Glue sniffing can cause brain damage.
 - B. Glue sniffing can cause hallucinations.
 - C. If people keep sniffing glue, they may have to use more to get high.
 - D. Glue sniffing will lead to using heroin.
 - E. None of the above
35. Marijuana could be called a (an):
- A. stimulant
 - B. depressant
 - C. narcotic
 - D. hallucinogen
 - E. None of the above

HEART AND CIRCULATORY UNIT
Demographic Material by Percentage
E - Experimental Project Schools
C - Control Schools

E% C%

1. What was your age at your last birthday?

8	13	A. 10 years old or younger
48	60	B. 11 years old
43	27	C. 12 years old
		D. 13 years old
		E. 14 years old

2. How many older brothers and sisters do you have living at home?

22	27	A. No brothers or sisters at home
30	34	B. 1 at home
24	23	C. 2 at home
24	17	D. 3 or more

3. If you have older brothers and sisters living at home, how many smoke cigarettes?

63	75	A. None smoke
23	9	B. 1 smokes
9	9	C. 2 smokes
5	7	D. 3 or more smoke

4. Of your four best friends, how many smoke cigarettes?

56	80	A. None smoke
19	8	B. 1 smokes
9	8	C. 2 smokes
7	2	D. 3 smokes
9	2	E. All of them smoke

5. Compared with other students in your grade, how good a student would you say you are?

13	11	A. One of the best
30	34	B. Above average
43	48	C. Average
13	8	D. Below average

6. Does your mother smoke cigarettes?

36	40	A. Yes
9	3	B. She used to but quit less than a year ago
5	4	C. She used to but quit more than a year ago
41	51	D. No.
9	3	E. No mother at home

HEART AND CIRCULATORY UNIT

E% C%

7. Does your father smoke cigarettes?

42	41	A. Yes
10	5	B. He used to but quit less than a year ago
7	14	C. He used to but quit more than a year ago
32	31	D. No.
9	9	E. No father at home

8. Read carefully all of the following five (5) statements and check the one that best describes you now.

58	50	1. I have never smoked cigarettes
16	29	2. I smoke cigarettes now, and have smoked <u>fewer</u> than 100 cigarettes in my life.
3	3	3. I smoke cigarettes now, and have smoked 100 or more cigarettes in my life.
10	11	4. I do not smoke cigarettes now, and have smoked fewer than 100 cigarettes in my life.
14	14	5. I <u>do not</u> smoke cigarettes now, but have smoked 100 or more cigarettes in my life.

9. I am a: (mark this in the column entitled "Sex")

55	37.5	Boy.....M
45	61.5	Girl.....F

ABOUT OUR HEART

CIRCULATORY SYSTEM IN HEALTH AND DISEASE Attitude and Knowledge Inventory

Attitude Survey

1. Even though lung cancer and heart disease can be caused by other things, smoking cigarettes still makes a real difference.
2. Cigarette smoke smells bad.
3. People smoke cigarettes to help them think more clearly.
4. It's okay for teenagers to experiment with cigarettes if they quit before it becomes a habit.
5. Cigarette smoking can harm the health of teenagers.
6. Cigarette smokers should be kept apart from non-smokers in public places.
7. Smoking cigarettes can help you enjoy life more.
8. Cigarette smoking is harmful only if a person inhales.
9. Even if cigarettes don't kill you, they can cut down on what you might get out of life.
10. I prefer the company of girls who don't smoke.
11. People who smoke seem to be more at ease with others.
12. There is no danger in smoking cigars or pipes.
13. I believe the health information about smoking is true.
14. Cigarette smoking should be forbidden inside public places.
15. Smoking cigarettes gives you a good feeling.
16. Cigarettes low in tar and nicotine can't harm your health.
17. There's nothing wrong with smoking cigarettes as long as you don't smoke too many.
18. If I smoke around other people, I take away their right to breathe clean air.
19. Smoking cigarettes seems to make good times even better.
20. Teenagers who smoke regularly can quit for good any time they like.
21. Most boys start smoking cigarettes because most of their friends smoke.

22. Teenagers who smoke cigarettes are more likely to be troublemakers than those who don't.
23. I feel good knowing I can turn to my parents for advice.
24. Making something of my life is important to me.
25. Most girls start smoking cigarettes to try to attract boys.
26. A person who smokes is more of a follower than one who doesn't smoke.
27. Adults try to stop teenagers from smoking just to show their power.
28. I use my own set of values to decide what I will or will not do.
29. Most boys start smoking cigarettes to try to become more popular.
30. Kids who smoke are show-offs.
31. It annoys me that my parents have so much control over things I want to do.
32. I don't want to get hooked on anything, including cigarettes.
33. If you don't smoke cigarettes, other teenagers put you down.
34. Teenage smokers think they are grown-up, but they really aren't.
35. I wish I were older than I am now.
36. I can control the kind of person I will become.
37. I am under pressure from my friends to smoke.
38. Teenage smokers think they look cool, but they don't really.
39. A teenager should be able to do the things he wants to do when he wants to do them.
40. I do not want to be just one of the crowd.

Knowledge Survey

1. Another name for a heart attack is
 - A. coronary occlusion
 - B. stroke
 - C. fibrillation
 - D. endocarditis
2. The most common sign of a heart attack is
 - A. severe pain centered below the breast bone in the front of the chest
 - B. shortness of breath
 - C. rapid heart beating
 - D. pain in the left shoulder and arm

3. The blood picks up nutrients from
 - A. kidneys
 - B. small intestines
 - C. liver
 - D. lungs
4. What system gives the body size and shape?
 - A. muscular
 - B. circulatory
 - C. skeletal
 - D. digestive
5. What system controls and coordinates all other body systems?
 - A. endocrine
 - B. central nervous
 - C. circulatory
 - D. muscular
6. The main purpose of the white blood cells is to
 - A. carry oxygen
 - B. heal cuts
 - C. fight disease
 - D. strengthen capillaries
7. There seems to be an association between heart disease and eating large amounts of
 - A. protein
 - B. fruits
 - C. animal fats
 - D. vegetable fats and oils
8. In the blood nicotine destroys
 - A. heparin
 - B. hemoglobin
 - C. red blood cells
 - D. platelets
9. If we know that our friend or parent is doing something that may injure his heart, we should
 - A. tell them to get a book on heart disease and read it
 - B. ignore what they are doing but make sure you don't make the same mistake
 - C. explain to them that what they are doing may cause heart damage
 - D. demand that they stop what they are doing
10. What is the main cause of death in the United States?
 - A. accidents
 - B. cancer
 - C. emphysema
 - D. heart disease
11. Heart disease is a concern for
 - A. young people
 - B. middle-age people
 - C. old people
 - D. all of the above

12. The chamber of the heart that pumps blood to the lungs is the
A. right atrium
B. right ventricle
C. left atrium
D. left ventricle
13. Which of the following is not considered a risk factor for heart disease?
A. cigarette smoking
B. obesity
C. high serum cholesterol
D. regular exercise program
14. A heart murmur means that
A. the ventricles are not completely full of blood
B. blood is leaking through a heart valve or another opening in the heart
C. the right ventricle contraction is weaker than the left ventricle contraction
D. air leaks from the left lung near the heart
15. A good way to help prevent heart disease is
A. not to drink any alcohol
B. engage in a regular exercise program
C. eating only organic health foods
D. sleeping eight hours a night
16. Cigarette smoking is a factor in
A. heart murmurs
B. congestive heart failure
C. heart disease and lung cancer
D. lung cancer but does not have an effect on heart disease
17. The chamber of the heart that pumps blood to all parts of the body except the lungs is
A. right atrium
B. right ventricle
C. left atrium
D. left ventricle
18. The heart is divided in the middle by the
A. mitral valve
B. medial axis
C. septum
D. cartilage
19. When the heart beats
A. both the right and left ventricle pump blood at the same time
B. first the right ventricle pumps then the left ventricle pumps
C. first the left ventricle pumps then the right ventricle pumps
D. there is no set pattern for pumping blood
20. The heart is part of which body system?
A. muscular
B. circulatory
C. respiratory
D. reproductive

21. The left heart pumps blood to the rest of the body through
 - A. pulmonary artery
 - B. superior vena cava
 - C. aorta
 - D. coronary arteries
22. Prevention of heart disease begins in
 - A. childhood
 - B. teens
 - C. middle-age
 - D. at the first sign of possible heart problems
23. Food and oxygen are carried to all parts of the body through the
 - A. capillaries
 - B. skin
 - C. veins
 - D. arteries
24. Which part of the blood carries oxygen?
 - A. red blood cells
 - B. white blood cells
 - C. platelets
 - D. plasma
25. Blood cells are produced in the
 - A. bone marrow
 - B. kidneys
 - C. pancreas
 - D. pericardium
26. The blood flows from the heart to the
 - A. veins, capillaries and then arteries
 - B. arteries, veins and then capillaries
 - C. capillaries, arteries and then veins
 - D. arteries, capillaries and then veins
27. The chamber of the heart that receives blood from the body is
 - A. right atrium
 - B. right ventricle
 - C. left atrium
 - D. left ventricle
28. The chamber of the heart that receives blood from the lungs is
 - A. right atrium
 - B. right ventricle
 - C. left atrium
 - D. left ventricle
29. The purpose of the heart is to
 - A. squeeze and push the blood through the arteries
 - B. clean the blood
 - C. put oxygen into the blood
 - D. make new blood

30. Smoking cigarettes will cause
A. the heart rate to decrease
B. the heart rate to increase
C. no effect on the heart rate
D. the pulse rate to increase but no effect on the heart rate
31. Coronary artery stripping is done to
A. strengthen the heart walls
B. remove scar tissue
C. increase pulmonary circulation
D. counteract arteriosclerosis of coronary arteries
32. The heart sound is made by
A. closing of the valves
B. opening of the tricuspid
C. contraction of the ventricles
D. the heart movement against the lungs
33. Blood pressure measures the pressure of the blood in the arteries. The pressure in the arteries is the greatest when the
A. atria relax
B. ventricles relax
C. atria contract
D. ventricles contract
34. In order to do its work the heart needs a supply of oxygen and nutrients which it receives from the
A. right atrium
B. inferior vena cava
C. aorta
D. coronary arteries
35. The organ in the body that cleans the blood is the
A. heart
B. lungs
C. kidneys
D. stomach
36. The blood picks up oxygen in the
A. heart
B. kidneys
C. liver
D. lungs
37. A heart attack is usually caused by
A. smoking cigarettes and drinking alcohol
B. a slowly developing disease known as atherosclerosis
C. the increase in age and is part of the normal aging process
D. paralysis due to apoplexy
38. The drug nitroglycerin is used by the doctor to help his patients who have
A. arteriosclerosis
B. heart murmur
C. angina pectoris
D. a stroke

39. When the doctor takes the blood pressure he is measuring the pressure of the blood in the
- A. arteries
 - B. veins
 - C. capillaries
 - D. heart
40. When the heart beats, in which of the following would the blood pressure be the greatest?
- A. pulmonary veins
 - B. pulmonary artery
 - C. inferior vena cava
 - D. superior vena cava
41. The purpose of an anticoagulant drug given to a person that had a heart attack is to
- A. increase coronary circulation
 - B. help the platelets do their work
 - C. prevent the formation of blood clots
 - D. increase the oxygen carrying capacity of the blood
42. The best way for you to prevent high blood pressure is to
- A. consult your physician
 - B. reduce the amount of salt in your diet
 - C. take a short nap during the day
 - D. eat some kind of fruit every day
43. To reduce the possibility of having a heart attack, the risk factors associated with heart disease should be reduced. Which of the following would result in an immediate risk reduction?
- A. reduce cholesterol in the diet
 - B. quit smoking cigarettes
 - C. start a weight reduction diet
 - D. start a regular exercise program
44. The taking of a vacation is recommended to reduce which of the following risk factors of heart disease?
- A. reduce body weight
 - B. lack of regular daily exercise
 - C. stress
 - D. reduce cholesterol in the diet
45. Which of the following is not a risk factor for heart disease?
- A. polyunsaturated fats
 - B. hypertension
 - C. nicotine absorption in the blood
 - D. obesity
46. Have you had the lung unit?
- A. yes
 - B. no

BRAIN AND CENTRAL NERVOUS SYSTEM UNIT

Demographic Material by Percentage

E - Experimental Project Schools

C - Control Schools

E%	C%	
		1. What was your age at your last birthday?
1	2	A. 10 years old or younger
8	13	B. 11 years old
61	31	C. 12 years old
26	40	D. 13 years old
1	6	E. 14 years old
		2. How many older brothers and sisters do you have living at home?
32	29	A. No brothers or sisters at home
33	38	B. 1 at home
19	15	C. 2 at home
13	10	D. 3 or more
		3. If you have older brothers and sisters living at home, how many smoke cigarettes?
78	52	A. None smoke
12	35	B. 1 smokes
4	4	C. 2 smokes
2	2	D. 3 or more smoke
		4. Of your four friends, how many smoke cigarettes?
63	40	A. None smoke
13	27	B. 1 smokes
8	8	C. 2 smokes
5	6	D. 3 smokes
8	13	E. All of them smoke
		5. Compared with other students in your grade, how good a student would you say you are?
7	4	A. One of the best
39	31	B. Above average
46	46	C. Average
5	10	D. Below average
		6. Does your mother smoke cigarettes?
30	29	A. Yes
5	10	B. She used to but quit less than a year ago
11	10	C. She used to but quit more than a year ago
50	29	D. No
2	13	E. No mother at home

BRAIN AND CENTRAL NERVOUS SYSTEM UNIT

E% CZ

7. Does your father smoke cigarettes?

37	29	A. Yes
4	12.5	B. He used to but quit less than a year ago
14	12.5	C. He used to but quit more than a year ago
37	23	D. No
6	15	E. No father at home

8. Read carefully all of the following five (5) statements and check the one that best describes you now.

63	19	1. I have never smoked cigarettes
5	35	2. I smoke cigarettes now, and have smoked <u>fewer</u> than 100 cigarettes in my life.
3	2	3. I smoke cigarettes now, and have smoked 100 or more cigarettes in my life.
20	10	4. I do not smoke cigarettes now, and have smoked fewer than 100 cigarettes in my life.
2	23	5. I do not smoke cigarettes now, but have smoked 100 or more cigarettes in my life.

9. I am a: (mark this in the column entitled Sex)

45	42	Boy.....M
50	50	Girl.....F
5	8	Not responding

ABOUT OUR BRAIN AND CENTRAL NERVOUS SYSTEM

THE BRAIN AND CENTRAL NERVOUS SYSTEM IN HEALTH AND DISEASE Attitude and Knowledge Inventory

Attitude Survey

1. Even though lung cancer and heart disease can be caused by other things, smoking cigarettes still makes a real difference.
2. Cigarette smoke smells bad.
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4. It's okay for teenagers to experiment with cigarettes if they quit before it becomes a habit.
5. Cigarette smoking can harm the health of teenagers.
6. Cigarette smokers should be kept apart from non-smokers in public places.
7. Smoking cigarettes can help you enjoy life more.
8. Cigarette smoking is harmful only if a person inhales.
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38. Teenage smokers think they look cool, but they don't really.
39. A teenager should be able to do the things he wants to do when he wants to do them.
40. I do not want to be just one of the crowd.

Knowledge Inventory

1. All cells contain
 - A. a cell wall
 - B. protoplasm
 - C. a nucleus
 - D. a cell membrane
2. The major transportation system in the body is the
 - A. muscular system
 - B. skeleton system
 - C. endocrine system
 - D. circulatory system

3. An example of a duct gland is the
 - A. sex glands
 - B. pancreas
 - C. thymus
 - D. pineal
4. The female reproductive cell is produced in
 - A. fallopian tubes
 - B. ovaries
 - C. uterus
 - D. testes
5. Endocrine glands product chemical fluids called
 - A. enzymes
 - B. marrow
 - C. hormones
 - D. sciatic fluid
6. In this country the most widely abused narcotic is
 - A. morphine
 - B. opium
 - C. delaudid
 - D. heroin
7. "Control" and "coordinate" refer to functions performed by the
 - A. heart
 - B. brain
 - C. lungs
 - D. muscles
8. The worst effect of false advertising and medical quackery on the public is
 - A. loss of money by the individual
 - B. loss of time for correct treatment
 - C. embarrassment to that indiviudal
 - D. an increase in the cost of medicine
9. The most frequent cause of cerebral palsy is from
 - A. prematurity
 - B. lack of oxygen to the baby's brain
 - C. hereditary defects
 - D. poor nutrition
10. Constant exposure to noise
 - A. leads to ruptured eardrums
 - B. causes pain in the ears
 - C. increases sensitivity to sound
 - D. permanently reduces hearing ability
11. Light impulses which reach the brain are transmitted by the
 - A. optic nerve
 - B. retina
 - C. vitreous humor
 - D. aqueous humor

12. The cells in the body that are always dying but never regenerate are
 - A. nerve cells
 - B. skin cells
 - C. liver cells
 - D. heart cells
13. The most abused drug in America today is
 - A. marijuana
 - B. amphetamines
 - C. alcohol
 - D. barbiturates
14. In muscular dystrophy muscle tissue is gradually replaced by
 - A. fat
 - B. new tissue
 - C. water
 - D. scar tissue
15. The most common form of venereal disease today is
 - A. gonorrhea
 - B. vaginitis
 - C. chancroid
 - D. syphilis
16. All of the following are diseases of the nervous system EXCEPT
 - A. stroke
 - B. cerebral palsy
 - C. epilepsy
 - D. PKU
17. Methadone maintenance is used for treating
 - A. heroin addicts
 - B. heart conditions
 - C. alcoholics
 - D. communicable diseases
18. In the stages of sleep the period of most dreaming occurs during
 - A. stage II
 - B. stage III
 - C. Delta sleep
 - D. REM
19. When you see or hear drug advertisements that you know are not true you should
 - A. tell a friend
 - B. forget about it
 - C. notify the FTC
 - D. tell your doctor
20. The most common cause of poisoning in children is from
 - A. flavored aspirin and vitamins
 - B. alcoholic drinks
 - C. cleaning and polishing fluids
 - D. barbiturates and amphetamines

21. The best way to make sure you get a good night's sleep is to
A. go to sleep early
B. take a sedative before going to bed
C. exercise every day
D. drink hot milk before bedtime
22. The brief rest nerve cells need between the transmission of messages in the nervous system is called
A. the recovery period
B. simple refractory
C. the refractory period
D. the motor pause
23. Of the following diseases, the one affecting the most people each year is
A. venereal disease
B. measles
C. strep throat
D. hepatitis
24. The best place to go for advice on dieting is
A. a psychiatrist
B. a friend
C. a book on dieting
D. the family doctor
25. All of the following chemicals are found naturally in nerve reactions EXCEPT
A. acetylcholine
B. noradrenaline
C. serotonin
D. benzedrine
26. The basic form of energy in the endocrine system is
A. chemical
B. muscular
C. magnetic
D. electrical
27. Most people in the United States are overweight because they
A. have a glandular disorder
B. do not get enough exercise
C. eat too much
D. inherited the problem
28. A person with a mental illness
A. is mentally retarded
B. has very bad emotional disturbances
C. cannot speak intelligently
D. has epileptic seizures
29. Eating your food slowly and chewing it well helps prevent
A. neuralgia
B. gout
C. indigestion
D. headaches

30. The best thing to do when you get a cold is to
A. take a lot of vitamins
B. get rest and drink plenty of liquids
C. go to bed and stay there
D. take a laxative to get rid of the germs
31. If you just had an annual checkup from your doctor and he said you were suffering from night blindness, he might tell you to
A. eat more fruits
B. go outside only during the day
C. buy a "seeing-eye" dog
D. eat more yellow vegetables
32. A hangover from alcohol is caused by
A. an irritated liver
B. dehydration of the body cells
C. not getting enough sleep
D. restlessness
33. When a person suffers from amnesia, the part of the brain which is NOT working properly is called the
A. pituitary gland
B. thalamus
C. cerebellum
D. cerebral cortex
34. The system that can be strengthened through exercise is the
A. skeletal system
B. circulatory system
C. nervous system
D. endocrine system
35. If you suddenly discover that you have the symptoms of a serious nervous system disorder, the first thing you should do is to
A. ask the pharmacist for a sedative
B. see a doctor as soon as possible
C. ask a friend what they think it is
D. buy drugs in a drug store and treat yourself
36. All of the following are examples of how the human nervous system is more complex than an animal's nervous system EXCEPT
A. ability to think and remember
B. ability to sense pain
C. use of symbols
D. ability to change environment
37. Sleeping pills are suspected to be of NO help after long use because they
A. help the person sleep longer
B. make the person more irritable
C. lessen REM time
D. disrupt daily activity

38. All of the following are food misconceptions EXCEPT
- A. vitamins are food substitutes
 - B. chocolate causes acne
 - C. protein tends to be low in most people's diet
 - D. organically grown foods are more nutritious than processed food
39. If you were swimming in the ocean and suddenly saw a shark, the hormone your body would secrete to help you swim faster is called
- A. adrenalin
 - B. estrogen
 - C. thyroxin
 - D. testosterone
40. The nutrient primarily responsible for supplying body-building material and energy to the body is
- A. carbohydrates
 - B. proteins
 - C. fats
 - D. minerals
41. If you were on a diet and wanted to eat a snack with the least number of calories, you should choose
- A. a piece of pie and milk
 - B. a cup of coffee and donut
 - C. a bottle of soda and banana
 - D. a glass of ice tea and jello
42. If someone in your family has a problem with a weak or irregular heart-beat, the medicine your doctor might prescribe is called
- A. sominex
 - B. salicylate
 - C. digitalis
 - D. secanol
43. The first thing you should do for a diabetic person suffering from insulin shock is to
- A. give him insulin
 - B. ask him if he wants to go to the hospital
 - C. give him a piece of candy
 - D. leave him alone until he recovers
44. When a person with epilepsy has a seizure, the first thing you should do is
- A. call a doctor
 - B. try to stop the seizure
 - C. keep calm and help him to a safe place
 - D. give him water
45. Women who smoke during pregnancy tend to
- A. develop breast cancer
 - B. have babies of lower birth weight
 - C. have babies with birth defects
 - D. require less attention during delivery

46. An overweight person, who eats little and exercises a lot, may have a problem with his
- A. adrenal gland
 - B. thyroid gland
 - C. pineal gland
 - D. islets of Langerhans
47. All of the following factors influence a person's different reactions to alcohol EXCEPT
- A. drinking experience
 - B. how fast the person drinks
 - C. whether he has eaten before drinking
 - D. age or sex
48. Have you had the lung and respiratory unit?
- A. Yes
 - B. No
49. Have you had the heart and circulatory unit?
- A. Yes
 - B. No

APPENDIX B

SCHOOL HEALTH EDUCATION CURRICULUM PROJECT
WICHITA MODEL

STUDENT QUESTIONNAIRE RESPONSES BY PERCENTAGE

	Total Number Responding	Yes	No
1. Did you enjoy the Health Education Project?	194	92%	8%

	Total Number Responding	Frequently	Occasionally	Seldom	Never
2. Do you feel that this program helped you learn more about your body?	198	70%	25%	5%	—
3. Have you improved your eating habits?	202	27%	44%	16%	13%
4. Have you improved your personal cleanliness habits?	198	49%	33%	11%	7%
5. Have you improved your sleeping habits?	198	28%	31%	19%	23%
6. Have you had discussions with your family about information you learned in health?	193	23%	31%	27%	20%
7. Have you had discussions with your friends about information you learned in health?	197	20%	28%	28%	24%

STUDENT QUESTIONNAIRE RESPONSES BY PERCENTAGE (Continued)

	Total Number Responding	Frequently	Occasionally	Seldom	Never
8. If you were approached by your best friend to take an alcoholic drink, would you?	199	6%	8%	14%	72%
9. If you were at a party and they were passing a marijuana cigarette around, would you take one puff?	196	6%	4%	6%	84%
10. Have you tried to get anyone you know to stop smoking?	198	50%	21%	14%	15%
11. Are you less likely to take medication without a doctor's prescription?	200	25%	10%	13.5%	51.5%
12. Would you like to have a similar course next year?	199	52%	23%	11%	15%
13. Do you feel that the program helped improve your reading?	199	29%	31%	25%	16%

SCHOOL HEALTH EDUCATION CURRICULUM PROJECT
WICHITA MODEL

PARENT QUESTIONNAIRE RESPONSE BY PERCENTAGE

	Total Number Responding	Yes	No
1. Were you aware that your child participated in a health program?	117	93%	7%
Would you like your child involved in a similar program next year?	122	98%	2%

	Total Number Responding	Frequently	Occasionally	Seldom	Never
2. Do you find your child more health conscious?	94	56%	34%	9%	1%
3. Did he initiate health discussions at home?	122	47%	33%	17%	3%
4. Have you noticed any improvement in his eating habits?	122	20.5%	45%	23%	11.5%
5. Have you noticed any improvements in his personal habits?	122	23%	46%	19%	12%
6. Is your child more interested in reading or watching television programs about health?	122	19%	44%	31%	6%
7. Have you seen an improvement in your child's reading?	115	22%	39%	27%	12%
8. Did he attempt to discuss at home with anyone:					
a. smoking	116	50%	34%	6%	10%
b. drugs	116	35%	38%	9%	17%
c. alcohol	113	31%	37%	13%	19%
d. respiratory diseases	114	39.5%	32.5%	16%	12%
e. decision making	111	25%	34%	19%	22%

PARENT QUESTIONNAIRE

COMMENTS

1. I thought it was a good program for my son because it was made interesting for him and he was able to discuss it on an adult level with his family which is always beneficial to a child.
2. Appeared to be very interested in the program. Occasionally brought work home which is unusual.
3. I think it has made _____ more aware of the human body.
4. Any program well organized with alternative activities can be good.
5. She really enjoyed the program and seemed to really like to work on the materials. Has taught her more in self-help and working independently.
6. She drove me nuts!
7. _____ was interested in the program, and he did discuss and learn.
8. I think it has been very helpful in as much as my child is very conscious of the dangers of some foods, smoking, drinking, and etc.
9. Was very pleased at the interest it created in eating properly and smoking and its effects. If these children can be made aware of their health and its importance at their age it could prevent them from ever obtaining a bad habit such as smoking and a few others.
10. Very beneficial. More programs of this kind should be included.
11. _____ does discuss smoking, alcohol, and the effects that they can do to you. But isn't that interested with the health program on T.V. because she seldom watches it, but I do believe that she has changed a lot, and I am grateful.
12. Children become aware of the dangers of smoking, drugs and alcohol. They understand and take better care of the body. I hope this program will be continued.
13. I can't say enough good things about this program. It seems to hit on quite a few subjects; the children not only seem to enjoy it but also learn many things.
14. I'm sure she is more aware of how important good health is and more aware of how to stay healthy and how her body functions. It is a very good program.
15. Every child should have the opportunity to enjoy and participate in such a worthwhile educational health program. I would highly recommend this program for all schools.
16. Very good program.
17. I feel it was a very worthwhile program.

Parent Questionnaire Comments Continued

18. Good program, glad he could participate.
19. This type of program is good preventive medicine.
20. I am very pleased with the program. My son and I discuss every day what went on in class.
21. Program made our child more aware of his body functions.
22. _____ seems to be very aware of the dangers of smoking. She also seems more aware of many other aspects of health care, such as the necessity of cleanliness.
23. Learned mouth-to-mouth resuscitation.
24. Excellent program.
25. Very good.
26. I wish entire public could see some of the excellent films.
27. Impressed with the demonstration model, student displays, and other posters.
28. More first-hand experience, things to work with, and more fun in learning.
29. I feel that health has not been taught in schools to the extent this course has. Children need to become aware of all aspects of health in order to maintain physical fitness. Also the program stresses the hazards of smoking.
30. I think it was helpful and informative.
31. We think this program is tremendous! We hope it will be continued each year.
32. My daughter was more interested than my son, but both enjoyed it and it was interesting. They should be more interested in their health and the changes and advances in medicine.
33. Great impact on children.
34. The program was very good and gave our child a new awareness of her body and how valuable it is. Please continue the program.
35. I feel this has made him more conscious of health and a lot more interested. This could be beneficial for making children more aware of what drugs, tobacco and alcohol can do to their body.
36. It was great.
37. He is aware of what harm smoking, drinking and drugs can do. He is more conscious of his diet.
38. Haven't discussed it.

• Parent Questionnaire Comments Continued

39. A health education program brings the child into greater awareness of the affect of outside stimulus on his growth and development, making it easier for the parent to explain certain things.
40. I think this program should be continued.
41. She took more interest in the project than just studying it from a book. It was more real and interesting to her. She came home every day telling what they had done.
42. It is helpful for the children and parents to know about these things. The lessons have helped with understanding of many health problems.
43. Seemed to have been a good learning experience for my child. Also helped the rest of the family be aware of health information. I (the mother) gained from helping with the program.
44. I think it is very helpful to the child and would like to see more of this kind of a program.
45. My child has become aware of the dangers involved in the use of tobacco, drugs, and alcohol—he has proceeded to point out these dangers to another member of the family who uses them excessively. I doubt that my child will ever take up smoking or become addicted to drugs or alcohol, thanks!
46. Health conscious children have a decided influence in family and community living. Developing more effective programs and involving children of both junior high and high school levels is considered essential in controlling smoking, drug and alcohol use among teenagers. I support this program whole heartedly and enthusiastically.
47. I think our young people realize how very detrimental smoking is to their bodies, just wish you could get the same point across with drugs.
48. My son has been most enthusiastic about the program and feels it was the "best part of the year."
49. I think it is a very good idea to get young boys and girls aware of all these things, especially smoking, drugs and alcohol. I worry about my children getting involved in these bad things, so I'm very happy that this program is trying to make children see the dangers. It's a good program.
50. The child seemed to enjoy doing a variety of work--different from the usual.
51. He seemed very interested in this program.
52. I believe this program is beneficial to a child's education and should be continued.
53. It had somewhat of an improvement effect on him but really not much.

Parent Questionnaire Comments Continued

54. Any type of program that improves a child's mental and physical person has to be a benefit. After answering the above questions, I think I will have to learn to communicate with my daughter.
55. Gives a child other viewpoints other than parents, also more effective than when a parent says it.
56. I was delighted with many of the creative projects and the opportunity of choice with the tic-tac-toe projects. My child seemed well motivated and enthusiastic over the projects.
57. Really have not been aware of any benefit, but we have not communicated that much on the subject.
58. I think it is a good program from discussion with my son.
59. Our children have never been especially interested in the biological sciences, but _____ with occasional comments showed he learned something.
60. I feel the child was made more health conscious because of the project.
61. I believe it has made my child more aware of the functions of the body and what it takes to keep them healthy.
62. I think it was and is a very worthwhile program and feel it should be continued.
63. Is more aware of value of food. Always in favor of education on the effects of drugs.
64. Became quite interested in the various parts (organs) of the body. Did better over all in school work.
65. I think that this is a good program and should use it every year.
66. It is more interesting to the student. Goes into more detail.
67. It was enjoyable for my daughter and she seemed to have a deeper understanding of the way the body functions.
68. My child became more aware of the way the body works together and what abusing it (especially smoking) means. She already had reasonably good eating and personal habits.